

***BellSouth New Zealand***

**Submission**

**Regulation of Access to Vertically-Integrated  
Natural Monopolies**

***A Discussion Paper***

**September 1995**

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1. **ABSTRACT**

Market processes in telecommunications must be enhanced if we are to achieve the Government's policy objectives of maximising this sector's contribution to overall economic growth.

The particular network characteristics of the telecommunications industry require participants to combine complementary network services which must be obtained from each other to fulfill customer desires. If the dominant incumbent fails to recognize the mutual benefits that interconnected networks provide, it can and will rationally use interconnection negotiations to delay and restrict the benefits of competition, and distort the timing and direction of the evolution of the industry. It thereby manipulates and impedes competition and innovation which together offer tremendous potential for growth and increased economic and consumer welfare.

Experience has shown that reliance on the Courts to constrain this behaviour takes too long, costs too much and cannot impose a contractually binding outcome. This results in significant loss of welfare. Government can best maximise welfare by enhancing market processes to promote market exchange and private contracting among industry participants.

The enhancement of market processes to maximize welfare should begin with the establishment of broad economic principles. These principles should guide an industry-specific two part arbitration process. This process must be supported by strengthened disclosure requirements to aid market interaction and enable legal redress if necessary.

The adoption of these enhancements will ensure that existing social obligations are accommodated. It will add certainty to the process governing market entry, ensure that innovation and competition will flourish, and support the investment required for an advanced information infrastructure of a network of networks.

## 2. EXECUTIVE SUMMARY

- 2.1 The review process which the Government has embarked upon is extremely important to New Zealand. BellSouth New Zealand's ("BellSouth") desire is to take a constructive approach and make a significant and positive contribution to this process. This has included extensive international primary research on competition and regulatory policy to ensure that BellSouth's contribution is academically sound, commercially robust and supportive of the Government's thoughtful approach to this topic.
- 2.2 BellSouth will not make recommendations which simply assist one party to a dispute at the expense of another. BellSouth believes that competition on a level playing field under a symmetrical regulatory regime is in BellSouth's best interests over the long term and maximises the contribution of these sectors to the overall growth of the economy through the promotion of economic efficiency.
- 2.3 These Submissions address the need to enhance market processes in the telecommunications sector to ensure consumer welfare is increased. This is best done through a market place which encourages competition and innovation. As the industry moves towards competition across a network of networks, market processes must be encouraged and developed which facilitate network interoperability. The alternative to this is a system which implicitly endorses network balkanisation with its resulting conflicts and loss of welfare.

### Network characteristics and dominance

- 2.4 Telecommunications is an industry in which network operators must combine complementary components obtained from each other to produce composite products or systems to fulfill customer desires.
- 2.5 Although these networks may have different characteristics (wireless v wireline; digital v analogue) which create different demands among customers, termination rights for all customers to all networks is mandatory to achieve the greatest consumer welfare.
- 2.6 The timing of, terms and conditions for, and pricing of, interconnection determine which firms capture the available rents. Hence, the dominant incumbent, if it fails to accept the benefits which flow from a competitive market, can and will rationally use interconnection negotiations to delay and restrict the benefits of competition. This enables it to perpetuate the rents which it obtains as a successor to a monopoly franchise at the expense of competition and innovation.
- 2.7 A dominant incumbent can limit both the scale and scope of its competitors, raising their costs and restricting their product offerings. In addition, it can divert or delay competition and innovation to protect its current revenues and to give itself time to prepare and introduce similar products or services by exercising control over standards for connection and over local numbers.

- 2.8 A key objective of competition policy in general, and for the telecommunications industry in particular, is how successful an economic system is at generating efficient growth through innovation. The impact of a dominant incumbent can have a significant adverse impact on welfare, and in particular consumer welfare.

**Potential for growth**

- 2.9 Innovation in any market is dependent on both its structure and history. Telecom's history as the successor of the former government monopoly makes it less likely that it will focus adequately on the opportunities presented by competition and new innovation. The incumbent has not had the competitive experience necessary to be innovative and with large embedded investments is likely to innovate in ways which protect its existing assets or services.
- 2.10 What is needed to ensure the efficient combination of competition and innovation is entry. The mere threat of entry will not provide the mechanism of dynamic competition, which requires that firms continually compete via innovation and interact with each other in the market place. This is a process of seeking out innovations, and developing and introducing new services to create growth and efficiency.

**Market exchange/private contracting/issues to be addressed**

- 2.11 The Government has pursued a policy of light-handed regulation on the basis that it is better to create incentives for market participants to negotiate commercial arrangements, or if need be resort to litigation, rather than for any regulatory body to intervene directly.
- 2.12 Experience has demonstrated that the first major flaw in this approach is the lack of an effective means to constrain the behaviour of the incumbent and resolve disputes between the dominant incumbent and other network operators. The decision to rely on general competition law to resolve disputes was made on the basis that "the Commerce Act was considered sufficiently robust to constrain anti-competitive behaviour by the dominant party". Experience has shown, however, that recourse to litigation through the current regime is too slow and costly and, in spite of that, cannot produce a contractually binding outcome. The threat of litigation has not adequately constrained anti-competitive behaviour by the dominant incumbent. Although recourse to the Courts is available, such recourse in and of itself serves to delay competition and may restrict its ambit or extent.
- 2.13 The need to address these difficulties in market processes in the telecommunications industry is not reduced in any way by the heads of agreement recently announced between Clear and Telecom in respect of access to the local loop. Reaching these heads of agreement has taken at least four years and Telecom and Clear are still working on the detailed contract. It appears that completion of that contract has been delayed a further month. In any event, as BellSouth understands it, the agreement is a "one-off" deal to address Clear's specific requirements and does not provide a sustainable basis for agreements about access to complementary network services among network operators in a

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network of networks or principles for use in other interconnection negotiations. The litigation between Clear and Telecom did not resolve the dispute between them, has little precedential value for preventing or resolving disputes between other parties and emphasised reliance on price control which, given effect, would be inconsistent with, and would signal the failure of, the current regulatory regime.

- 2.14 The second major flaw with the current approach is that the existing information disclosure regime does not provide other firms with the sufficient information they need in order to facilitate direct negotiations. It does not enable firms to establish whether the terms and conditions offered by Telecom are fair and reasonable to determine appropriate prices for various complementary product and service markets.
- 2.15 This has been exacerbated by difficulties which arise from Telecom's agreement to accept price restrictions on residential tariffs. Even assuming that network operators other than Telecom should bear any part of the costs of this "obligation", there is no publicly available information about the associated costs and revenues, or about the way Telecom allocates those costs and revenues over its products and services. In the absence of information of this kind, it is impossible to determine what portion, if any, of the net costs should be borne by other network operators.
- 2.16 This highlights another issue. For the Government's policy of light-handed regulation to be successful and not disadvantage some parties, there must be sufficient information available to all parties to facilitate even-handed negotiation, and allow determination of whether a breach of the Commerce Act has occurred. Otherwise, Telecom can exploit these information asymmetries to improve terms and conditions, including pricing, which delay, restrict or prevent competitive entry and behaviour without competitors being able to demonstrate this. For example, Telecom aggregates its business units and bundles the products and services that it offers to customers, taking advantage of current informational asymmetries, notwithstanding its assurances to Government that it would do otherwise when it was privatised.
- 2.17 These difficulties are by no means limited to the prolonged and at times acrimonious dispute about the terms and conditions for access to the local loop between Telecom and Clear. There are also serious disputes between Telecom and BellSouth and there have been disputes between Telecom and other network operators.
- 2.18 Today's light-handed regulatory regime is failing to produce the conditions required for effective competition in telecommunications markets because there is no effective means of constraining anti-competitive behaviour by the dominant incumbent and resolving disputes and, in addition, because there is insufficient quality information available to enable other network operators to negotiate access arrangements with the dominant incumbent or to have access to legal remedies.
- 2.19 Notwithstanding the Discussion Paper's concern with vertically-integrated natural monopolies, it is insufficient and inaccurate to characterise the issues in the telecommunications industry as arising from a vertically-integrated natural

monopoly. There are issues that need to be addressed even if no segment of the telecommunications industry is a natural monopoly and neither the dominant incumbent nor any other firm is vertically-integrated.

#### **Enhancements to existing market processes**

- 2.20 BellSouth suggests three main enhancements to the existing light-handed regulatory regime. First, establish broad economic principles, the acceptance of which will lead to behaviours consistent with the Government's objectives of growth and efficiency. Secondly, even with the establishment of guiding principles, the interconnection of mature and nascent networks is complex and will result in disputes which may not be resolvable through normal commercial negotiations. Consequently, BellSouth recommends that an arbitral regime be created to resolve disputes between network operators in the telecommunications industry which will be compulsory and time-bound. Thirdly, this process must be supported by strengthened disclosure requirements.
- 2.21 The objectives of Government policy which firms should have regard to in market exchange and private contracting, and which any arbitral tribunal should be required to comply with, are to maximise welfare by:
- ensuring that efficient entry and competition in that or any other market is not prevented, restricted, delayed or lessened
  - promoting efficiency including dynamic, allocative and productive efficiency in the production and supply or acquisition of the relevant services
  - supporting the combination of competition and innovation to their mutual benefit and encouraging greater dynamic efficiency with, if there is a trade-off, precedence over short-term static efficiency gains
- 2.22 The arbitral regime should be a compulsory, time-bound and a two-stage process. In the first stage, the arbitrators should decide the appropriate terms and conditions, excluding price, of access to complementary network services. The second stage will deal with price on a final offer basis. Each of the parties will be required to submit a price for access under the prescribed terms and conditions. The arbitrators will reach their own view and then select one of the submitted prices. A strict and short timetable will be established and applied to the arbitration process.
- 2.23 The third enhancement would be to strengthen disclosure requirements to aid market interaction and enable legal redress if necessary. Prompt disclosure of detailed information necessary to reduce existing information asymmetries will be required. These requirements would only be imposed so long as one firm has market dominance.
- 2.24 As a result of these enhancements, innovation and competition will flourish, supporting the investment required for an advanced information infrastructure of a network of networks.

### 3. INTRODUCTION

- 3.1 In 1989 New Zealand was the first member of the OECD to introduce full competition to all sectors of telecommunications under a regime which places reliance on general competition law, rather than an industry-specific regulator. Competition began in 1991 and experience over the last four years has demonstrated that the policy of light-handed regulation has some advantages but that reliance on the Commerce Act is not robust enough to constrain anti-competitive behaviour by the dominant party. There has already been significant loss of welfare as a result.
- 3.2 Earlier this year the Government directed officials of the Ministry of Commerce to report on the implications of the Privy Council decision in *Clear v Telecom* for interconnection policy and network industries and for the operation of the Commerce Act. This led to the Discussion Paper, prepared by The Treasury and the Ministry of Commerce which sought public views on:

...questions which are important for the future development of major vertically integrated industries involving natural monopoly components...

- 3.3 The dispute between Clear and Telecom is the most prominent and has provided impetus for the Discussion Paper but it is merely one of a large and growing number. The decision of the Privy Council in the case of *Telecom v Clear* has important implications for the economic regulation of access issues in the telecommunications industry, but there is a much wider and rapidly growing body of experience which must also be taken into consideration. The decision raises some important issues. Because many of these are specific to this dispute, they must not be allowed to obscure the broader issues which are inherent in a deregulated and dynamic telecommunications industry.
- 3.4 Although public policy needs to be concerned with the issues raised by competition with a vertically-integrated natural monopoly, it is insufficient and inaccurate to characterise the issues raised by the telecommunications industry as arising from it being a vertically-integrated natural monopoly. As a result of technology innovation, the telecommunications industry is now no longer, even if it ever was, a natural monopoly. Nevertheless, there are issues which need to be addressed even if no segment of the industry is a natural monopoly and neither the dominant incumbent nor any other firm is vertically integrated.
- 3.5 Hence, while the Discussions Paper's comprehensive and thorough analysis provides a solid foundation for considering whether new measures should be introduced, its focus on the Privy Council decision and on the regulation of access to vertically-integrated natural monopolies is too narrow. In order to address the issues arising from the New Zealand experience with telecommunications interconnection negotiations, there is a need to adopt a much broader perspective.
- 3.6 BellSouth's goal is to take a constructive approach and it has sought to make a significant and positive contribution to the debate on competition policy and the regulatory regime. This has included extensive international primary research on



these issues to ensure that this contribution is academically sound and commercially robust. This work has been debated wherever possible in public forums so that it can be subject to review by academics, industry participants and policy makers.

- 3.7 It is not BellSouth's objective to make any recommendations which simply assist one party to a dispute at the expense of another. It has sought to make this contribution to the policy debate because it believes that competition on a level playing field is in BellSouth's best interests over the long-term and will also lead to efficient production, efficient pricing and the greatest benefits for consumers and producers.
- 3.8 The objectives of these Submissions in response to the Discussion Paper are to:
- demonstrate the need for changes to enhance the current regime
  - define the appropriate objections for policy
  - outline BellSouth's overall position
  - define the solution and provide a blueprint for policy
  - answer the questions set out in the Discussion Paper
  - respond to the other issues raised in the Discussion Paper
- 3.9 These Submissions focus on the telecommunications industry for four key reasons:
- this has been the focus of BellSouth's analysis of the issues and it is the only industry on which it is qualified to speak with any authority
  - the potential welfare gains from competition and innovation in telecommunications are very large
  - experience from the analysis of the telecommunications industry is of vital importance because it is the only major network industry in which light-handed regulation has operated for any length of time
  - there are issues specific to telecommunications, which presently of all network industries has the potential to be most competitive

#### **4. THE CASE FOR CHANGE**

- 4.1 Market processes in telecommunications must be enhanced to achieve Government policy objectives of maximising this sector's contribution to overall economic efficiency:**
- **telecommunications plays a vital role in the New Zealand economy**
  - **it faces transformation through competition and innovation**
  - **its particular network characteristics require interconnection amongst firms**
  - **the dominant incumbent can and will rationally exploit this to perpetuate and increase its monopoly rents**
  - **it will thereby manipulate and impede competition and innovation**
  - **experience has shown that reliance on the Courts to constrain this behaviour is ineffective**
  - **the putative resolution of the dispute between Clear and Telecom does not remove the need for action**
  - **the requirements for disclosure also need to be strengthened to support negotiations and allow redress where appropriate**
- 4.2 The telecommunications sector is of significant and fundamental importance to the New Zealand economy. The communications sector as a whole, which encompasses telecommunications, represents 6% of GDP and is a vital input to all sectors of the New Zealand economy. The direction and speed of its development in New Zealand is of critical importance to the economy as a whole and impacts directly on New Zealand firms' international competitiveness.**
- 4.3 If truly competitive, it would offer the prospect of significant welfare gains from dynamic, allocative and productive efficiency. Competition and innovation offer tremendous potential for growth and increased economic and consumer welfare which will not be realised under the current regime. Government can best maximise welfare by enhancing market processes to promote market exchange and private contracting among industry participants.**
- 4.4 Telecommunications is undergoing a rapid transformation brought about by the removal of statutory barriers to entry and rapid technological innovation. This led first to the emergence of competitors in sectors which had low entry barriers, such as long distance, or which were complementary, rather than substitutes, such as mobile communications. This innovation now offers the prospect of widespread horizontal competition which threatens to erode the monopoly rents of the dominant incumbent, and the possibility of many new and diverse forms of interconnection and interoperation amongst networks.**

- 4.5 Telecommunications is a network industry in which network operators combine complementary components, network services, which must be obtained from each other with their own capabilities, to produce composite products or systems, end user services<sup>1</sup>, to meet customers' desires. In order to obtain these composite products or systems, customers must typically subscribe to an access network. It is not economically feasible for a new entrant to deploy, instantaneously, a co-extensive network serving all end users. Even if it were, the great majority of customers will only subscribe to a single network, and infrequently reconsider their subscription decision. Complementary network services required by other network operators, such as numbering and call termination, are typically produced in common with these services to which customers must subscribe, such as local access. The result is that network operators aggregate market power by virtue of their control of access to customers and potential customers.
- 4.6 All end users value, and require, the ability to communicate with all other end users, but are generally indifferent to the choice of an access network made by those other end-users. Network operators can compete in the market for the composite products or systems but depend upon each other for the complementary network services.
- 4.7 Hence, in order to be able to provide composite products and services to customers, new entrants require interconnection with the network of the dominant incumbent. The terms and conditions for interconnection, and the price of those complementary network services, determine which firms capture what rents, and how. A dominant incumbent can perpetuate and increase its monopoly rents through the bargaining power it holds in the negotiation of terms and conditions, including pricing, for complementary network services.
- 4.8 This applies even where the dominant incumbent is not vertically-integrated and no part of the industry a natural monopoly. Hence, although technical innovations now mean that access networks are no longer natural monopolies,<sup>2</sup> competition requires interconnection among network operators in order for customers of one network operator to make calls to customers who subscribe to another network.
- 4.9 In New Zealand, the dominant incumbent, Telecom, obtained its market power as a result of the historical accident of being the successor to a monopoly franchise. It has huge market power in telecommunication generally in New Zealand, and at least presently complete market power in local services.
- 4.10 When the statutory barriers to entry to the telecommunications market were removed, Telecom was privatised and, for regulatory purposes, primary reliance was placed upon the ability of competitors to negotiate private agreements with Telecom. It gave undertakings to the effect that it would offer interconnection on

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1 Nicholas Economides and Steven C Salop, "Competition and Integration among Complements", *The Journal of Industrial Economics*, Volume XI, page 105.

2 G.L. Rosston and D.J. Teece 1993 "Competition and Local Communications: Innovation, Entry and Integration." Columbia Institute for Tele-Information, 10 December 1993.

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fair and reasonable terms and would operate its separate businesses through separate companies with whom it would deal at arms-length.<sup>3</sup>

- 4.11 It is rational in these circumstances, however, for the dominant incumbent to exploit the regulatory regime to the greatest possible extent without exposing itself to the threat of intervention or adverse changes to the regime. In fact, the directors of the dominant incumbent have a fiduciary duty to seek to extract the highest rents available to it as a result of its business position (as does any other profit-maximising firm). From the dominant incumbent's perspective, the welfare of its shareholders is its management's dominant motivation.
- 4.12 It has very powerful incentives to include monopoly rents in the price of complementary network services in order to perpetuate and increase its monopoly profits. It similarly has powerful incentives to reduce the ability of its competitors to claim market share. This will delay and hinder the creation of significant customer bases by new entrants and thereby limit the scale and scope of its competitors. As a result, its competitors face higher costs and are restricted in the services and products they can offer.
- 4.13 Hence, even though much is made of the potential for actual foreclosure of markets by denial of interconnection, the dominant incumbent's ability to manipulate the timing and direction of the evolution of the industry through use of market power means that in general foreclosure will not occur. Instead, the dominant incumbent can maximise profits; that is, perpetuate and increase its monopoly rents by exploiting interconnection in three ways:
- where it can capture the rents over the long term through imitation, it delays to negate first mover advantage by an innovative entrant
  - where delay is not profit maximising, it imposes restrictions which severely constrain an innovative entrant and prevent it from exploiting economies of scale and scope
  - where an innovative entrant expands the market or provides services at lower costs in ways which the dominant incumbent cannot, it captures the rents through pricing for complementary network services.<sup>4</sup>
- 4.14 The timing of terms and conditions for the price of those complementary network services determine which firms capture whatever economic rents are earned from the supply of composite products or systems to end users. The dominant incumbent can and will rationally:

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3 These undertakings were contained primarily in two letters from Telecom to the relevant Ministers dated 8 June 1988 and 6 July 1989.

4 Posner 1971 "Taxation Regulation", Bell Journal of Economics and Management Science, 1, Spring, 22-50.

- reach agreements for the supply of complementary network services only within its own time frames where delay is to its advantage
- build a precedential slate of terms and conditions and pricing principles for complementary network services that are acceptable to it and which it can use to manipulate and impede competition or innovation
- if there are increasing returns to scale, impose restrictions which ensure that competitors remain small, and hence have higher costs
- if there are economies of scope, impose restrictions which ensure that competitors cannot exploit them and hence have higher costs and are precluded from entering adjacent markets
- prescribe standards for interconnection of networks that limit the available functionality and/or which impose high costs on competing network operators and alter those standards with the same effect
- exploit control of the numbering plan to limit competition by, for example, refusing to allow numbers to be portable, an essential prerequisite for competition given that call termination is produced in combination with access

4.15 Whilst there have been some improvements in welfare as a result of the deregulation of the telecommunications market, the privatisation of Telecom and the emergence of limited competition in some segments of the telecommunications industry, New Zealand has forgone opportunities for far greater welfare benefits:

- competition is restricted to less than 45% of Telecom's revenues
- real residential access prices have not fallen despite the significant productivity gains made by Telecom, in sharp contrast to elsewhere
- the price of residential access in New Zealand remains among the highest in the industrialised world
- although New Zealand's network of networks is amongst the most advanced in the world, virtually 100% digital, SS7 and IN-capable, New Zealand does not lead in the introduction of new services, so that, for example, SS7 is restricted through PTC331 to basic call set-up and tear-down, merely replicating the functionality of the obsolete R2 MFC protocol
- Telecom has sought through its draft standard for local access interconnection, PTC332, to impose restrictions on competitors which force them to adopt Telecom's geographic areas and pricing regime and hence to offer undifferentiated products and services

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- Telecom is delaying the implementation of number portability within the New Zealand numbering scheme, and thus delaying and restricting competition in the local access market, because without number portability customers are much less likely to subscribe to local access from another network
- 4.16 The potential for loss of welfare is exacerbated where, as in Telecom's case, its dominant position arose because it is the successor to a former monopoly franchise rather than as a result of superior skill, foresight or industry in a competitive environment. In these circumstances the incumbent's network configuration, technology and management can remain economically inefficient but not be subjected to competition for as long as competition can be thwarted.
- 4.17 These unfortunate outcomes demonstrate that the current regime does not provide effective mechanisms for constraining anti-competitive behaviour by the dominant incumbent. The current regime of light-handed regulation has three major shortcomings:
- it lacks instruments to guide market exchange and private contracting
  - it does not provide an effective process for resolving disputes
  - it does not provide adequate information disclosure to aid negotiations or enable recourse where appropriate
- 4.18 Because of the low barriers to entry, competition first emerged in the long-distance market where the initial entrant, Clear, competed against the incumbent, Telecom, which is vertically-integrated. It subsequently sought to enter the market for local services. In this context, the resulting dispute between Clear and Telecom is not surprising:
- Economic theory would predict this litigation on purely deductive grounds. Because of the substantial market power of the incumbent, theory predicts that negotiations regarding prices and terms will likely break down. The incumbent has few incentives for cooperating with the entrant. If the incumbent is able to raise the cost of entry, it may be able to block entry.<sup>5</sup>
- 4.19 Clear sought to enter the market for local services serving businesses in the central business districts of major cities seeking a "bill and keep" regime to minimise the amount paid to Telecom for complementary network services. On the other hand, Telecom sought to delay and restrict Clear's entry and to impose terms and conditions including pricing for the supply of complementary network services that would perpetuate its rents and which required Clear to contribute towards the costs of Telecom's agreement with its shareholder to restrict the price of residential service.
- 4.20 When Telecom and Clear were unable to reach agreement through private negotiations, the only means of resolution available to them was recourse to

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5 David Gabel & William Pollend, "Privatisation, Deregulation and Competition - Learning from the Cases of Telecommunications in New Zealand and the United Kingdom", National Regulatory Research Institute, Ohio State University, January 1994, page 24.

litigation. Clear began proceedings against Telecom in the High Court alleging that the terms and conditions offered by Telecom for local service interconnection of Clear were actuated by an anti-competitive purpose. The litigation was very costly, took a very long time and, ultimately, did not produce an outcome.

- 4.21 Part IV of the Commerce Act did not provide a credible threat prior to the resolution of the litigation:

In practice, the threat of re-regulation could not have seemed especially credible. Having staked substantial political capital on the virtues of the [light-handed] regime, governments were hardly likely to walk away from it... Governments may have had a gun pointed at the incumbent's head; unfortunately, they stood between it and the target. Under these circumstances, incumbents could heavily discount the likelihood of the trigger being pulled... The hand which was meant to be light had all but vanished.<sup>6</sup>

- 4.22 This dispute demonstrates the central flaw in the current regime. Whilst the policy of light-handed regulation has eliminated statutory barriers to entry and allows market forces to operate in the supply of composite goods and services to end users, the requirement in the telecommunications industry for interconnection enables the dominant incumbent to delay entry and restrict the ambit and extent of competition through lengthy negotiations, higher transaction costs and the lack of an outcome in the market for complementary network services.

- 4.23 The most important issue for policy makers, and for the enhancement of the light-handed regulatory regime, is not the specific decision that resulted from the litigation but rather the defects in the current regime that were illustrated by the process:

- the decision was only the penultimate act in a saga which has gone on for several years and in which negotiations are still continuing
- the transaction costs incurred up to and including the decision are tens of millions of dollars
- it did not resolve the dispute between the parties, merely declaring certain behaviour lawful or unlawful
- it has little or no value in preventing or resolving the disputes between other parties, because the decision is highly specific to the particular case
- it emphasises reliance on Part IV of the Commerce Act which the parties to the dispute cannot themselves invoke and which is not an inevitable threat

- 4.24 The high transaction costs and significant delays inherent in this process mean that this is the one major interconnection dispute which has reached a substantive court hearing. Its progress has overshadowed other proceedings and deterred firms from seeking redress under general competition law through the courts pending its

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6 Henry Ergas, "Brief Comments on the Discussion Paper on Regulation of Access to Virtually Integrated Natural Monopolies", speech on installation as BellSouth New Zealand Visiting Professor of Network Economics and Communications, Auckland, New Zealand, 19 September 1995.

outcome. Whatever its merits as a decision, it demonstrates that under the current regime dominant firms can and will require cases to be taken through a litigious process even knowing that a satisfactory outcome is both unlikely and will be in any case greatly delayed.

4.25 In addition to the *Clear v Telecom* dispute which provided the impetus for the Discussion Paper, examples of disputes between Telecom and BellSouth include:

- The original negotiations between Telecom and BellSouth were difficult and protracted, while the resulting Interconnection Agreement imposes a number of restrictive terms and conditions on BellSouth, including:
  - a requirement for further agreement in order to connect via a third party, so that, for example, BellSouth cannot make use of Clear's network or points of interconnect to terminate calls
  - the agreement does not cover the use of a third party for toll or toll bypass, both of which Telecom requires to be the subject of a separate agreement
  - BellSouth pays full retail prices for calls from its network to Telecom's network and substantially more, a premium or "commercial amount" of 7.25 cents per minute, for calls which originate on Telecom's network and terminate on BellSouth's network
  - Telecom can unilaterally impose its interconnection standards on BellSouth and change them without BellSouth's consent
  - Telecom controls the numbering plan
- PTC331 restricted SS7 interconnection to basic call set up and tear down, in effect doing no more than match the functionality of the obsolescent R2MFC interconnect interface
- Telecom delayed BellSouth's implementation of automatic international roaming to past the point at which Telecom was able to develop its own competitive response and BellSouth has been forced to accept the terms offered by Telecom on an interim basis without prejudice in order to enter commercial service
- PTC332 attempted to impose onerous and anti-competitive restrictions on competitors who wished to interconnect with Telecom's local network, requiring them to adopt the same geographic areas and pricing regime as Telecom and discriminating against them by only allocating them distinctive numbers and denying them number portability
- Telecom's "Talkaround" PCS offering is priced at a level which makes it completely uneconomic for competitors to enter the market in that it



produces a negative margin net of interconnect costs and demolishes any remaining pretence of transparent, arm's length dealings between various company operations

- 4.26 The future development of the telecommunications industry in New Zealand requires enhancement to the current regulatory regime that addresses its shortcomings:

There is consequently a demand on policy-makers to provide a low-cost mechanism for dispute resolution - that is, a mechanism which (much as might occur within a firm) offers access to the specialised expertise (for example, about the technical features of the activities concerned) and flexible decision-making procedures needed to promptly arbitrate conflicts.<sup>7</sup>

- 4.27 It is apparent that this is a continuing issue which will persist:

Interconnection disputes in competitive telecommunications regimes are almost certainly a fact of life, at best capable of temporary resolution pending further technical or commercial change in a dynamic industry.<sup>8</sup>

Given the incentives for anti-competitive conduct, the lack of experience with a wholesale market, and the problems of co-ordination characteristic of network industries, the entitlements (property rights) to be traded will prove difficult to define and to price, at least initially. As a result, one can expect frequent disputes between the parties - an expectation borne out by experience to date ...<sup>9</sup>

- 4.28 The recently announced heads of agreement between Telecom and Clear do not remove in any way the need for action, nor do they suggest that further time should be allowed to evaluate the current light-handed regulatory regime:

- the heads of agreement were only signed after extraordinary governmental and official pressure had been applied to both parties, including statements from Cabinet Ministers and briefings by the Prime Minister and this level of pressure cannot be applied to all, or even a few, such disputes
- reaching heads of agreement has taken at least four years and has been hugely expensive and Telecom and Clear are still working on the detailed contract<sup>10</sup>

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7 Henry Ergas "Managing Interconnection Issues of Institutional Design", presentation to International Telecommunications Society Workshop on Interconnection, Wellington, New Zealand, 10-12 April 1995, page 6.

8 Henry Ergas "Managing Interconnection Issues of Institutional Design", presentation to International Telecommunications Society Workshop on Interconnection, Wellington, New Zealand, 10-12 April 1995, page 6.

9 Henry Ergas "Managing Interconnection Issues of Institutional Design", presentation to International Telecommunications Society Workshop on Interconnection, Wellington, New Zealand, 10-12 April 1995, page 6.

10 Clear has announced that an agreement as to the form of interconnection agreement reflecting the heads of agreement between Telecom and Clear has not been reached within the timetable previously announced and that signing will be delayed by a month. Clear's chief executive said that the final interconnection agreement would be one thousand pages long. It can be inferred that the interconnection agreement is highly specific and if previous patterns are followed will be highly prescriptive of Clear's access and user rights and thus restrictive of its commercial opportunities. A full copy of the press clipping is set out in Appendix H.

- as BellSouth understands it, the agreement is a "one off" deal to address Clear's specific requirements and does not provide any principles to guide future behaviour or a sustainable basis for agreements about complementary network services among network operators in a network of networks
  - there are many existing complex disputes for resolution in the telecommunications industry of which the local access dispute between Clear and Telecom is merely one, albeit the most prominent
  - many more disputes are certain to arise as innovation and convergence alter the characteristics of existing telecommunications markets
- 4.29 Moreover, the impact of the agreement between Telecom and Clear on Telecom's dominance is likely to be insignificant. Clear contemplates limited investment of less than \$40 million in capital expenditure and the employment of fewer than 100 people and will limit the scope of its competition to businesses in the central business districts of five major cities.
- 4.30 The agreement between Clear and Telecom will not enable the Government's policy objectives to be met for competition in telecommunications markets. It will not maximise the contribution of the telecommunications sector to the overall growth of the economy through the promotion of economic efficiency.
- 4.31 In addition, the litigation between Clear and Telecom created further problems as a result of the ruling that Telecom's use of the Baumol-Willig rule to price access to its local network was legal. The Baumol-Willig rule creates very significant allocative and dynamic inefficiencies and thus perpetuates inefficiency without ensuring productive efficiency in the telecommunications sector in New Zealand. The rule sacrifices long-run benefits of competition by tending to exclude new entrants. It is not designed to collect contributions to a revenue shortfall (albeit it has been used for that purpose). It is not sensitive to local market conditions where related product and service markets are not themselves regulated.
- 4.32 The Baumol-Willig rule maximises social welfare only in a static world and then only if a stringent set of assumptions are valid. These assumptions are:
- the dominant incumbent prices a complementary service based on a marginal cost pricing rule
  - the dominant incumbent's and the new entrant's or rival producer's respective components are perfect substitutes
  - the production technology of component services experiences constant returns to scale
  - an entrant incurs no fixed costs (no entry barriers)

- the new entrant or rival producer has no market power
  - the dominant incumbent's marginal cost (or average incremental cost) of production of components can be accurately observed
- 4.33 These assumptions are not valid in New Zealand where the dominant incumbent is not effectively constrained in its downstream pricing decisions by regulation or by competition law.
- 4.34 Complex disputes<sup>11</sup> are certain to arise in the telecommunications industry and must be resolvable as a practical and actual matter without undue delay or enormous costs. Continuing technical and commercial change in a dynamic industry means that there will be repeated disputes in respect of similar subject matter each of which will require speedy resolution to enable innovation to proceed. There are many other contentious issues and:

Most of [these] contentious issues...could be capable of generating Section 36 cases, should the new entrants concerned wish to take cases over unsolved issues.<sup>12</sup>

- 4.35 The light-handed regulatory framework in its present form has been shown to be unable to provide quick and effective resolution of complex disputes and, in particular, of disputes between a dominant incumbent and its fellow network operators. Whilst market conditions can and, if the regulatory regime is enhanced will, change it is likely that Telecom will remain the dominant incumbent in many sectors of the telecommunications industry in New Zealand for some while.
- 4.36 The Commerce Act has now been in force for more than nine years. There has been sufficient experience of the Act in operation for it to be appropriate in any event for the Government to evaluate and re-examine the results of its adoption more than six years ago of the light-handed regulatory regime for the telecommunications sector.

Any regulatory regime is very much on trial in the initial years of its operation. And rightly so given the difficulties of developing appropriate regulatory regimes. The Government has always made it clear that if the approach adopted for telecommunications was not satisfactory alternatives would be considered.<sup>13</sup>

- 4.37 It is not surprising, and does not imply a failure in any significant respect of the regulatory policy, to acknowledge that the light-handed regulatory regime in respect

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<sup>11</sup> By way of example, Telecom and BellSouth are currently in dispute about a number of important issues. These include disputes about the reduction in the maximum message occupancy of signalling links from 20% (the ITU - TS recommendation) to 10%, about Telecom's unwillingness to support international length A-numbers, about Telecom's establishment of services accessed by symbols that cannot be supported by BellSouth's GSM network, about delays in making 0800 functionality available and about Telecom's unwillingness to provide full portability of numbers between the networks.

<sup>12</sup> David Galt, Ministry of Commerce, "Telecommunications Regulatory Structures in New Zealand", International Telecommunications Society Workshop in Interconnection, Wellington, New Zealand, 10-12 April 1995, page 14.

<sup>13</sup> John Belgrave, Secretary of Justice, "The Regulatory Environment", Roundtable with the Government of New Zealand, Wellington, New Zealand, 13-15 March 1995, page 54.

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of the telecommunications industry requires enhancement and for the Government to take steps in that regard.

4.38 In summary, the New Zealand experience has shown:

- recourse to litigation is too slow, too costly and is unlikely to produce an outcome with the result that the threat of litigation is unlikely adequately to restrain anti-competitive behaviour by a dominant incumbent
- although recourse to the courts is available, such recourse in and of itself serves to delay and stifle competition and innovation and may restrict its ambit or extent
- Telecom has not provided interconnection except under duress

#### Information disclosure

4.39 The second major problem in connection with the operation of the light-handed regulatory regime in the telecommunications industry is the inadequacy of the information disclosure regime. Information disclosure is a critical element of the light-handed regulatory regime and is intended to overcome the significant information asymmetries that are typically used by an incumbent to control the focus of the regime and to frustrate new entrants by hiding the true costs of the different aspects of its business.

4.40 This is an essential element of light-handed regulation:

Light handed regulation recognises that in a competitive market information creates powerful incentives for action. It attempts to create information flows, the object of which is to limit information asymmetries that might frustrate either direct negotiation or accessing the remedies available under the Commerce Act, New Zealand's Anti Trust Statute.<sup>14</sup>

4.41 The relevant provisions of New Zealand's disclosure regulations require only the disclosure of accounting information and, more recently, the terms of actual transactions. The self-policing nature of the regulations provides significant opportunities for a dominant incumbent to game the disclosure requirements, and in particular the disclosure of the terms of relevant interconnection or analogous transactions.

4.42 In an investigation conducted by the Commerce Commission, the Commerce Commission concluded that:

The information currently disclosed by Telecom under the Regulations does not provide significant assistance in removing any of the obstacles to the development of competition. It is not so much information that is the problem, but rather such matters as terms and conditions of supply, which in turn are heavily influenced by the structure of the industry.<sup>15</sup>

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14 John Belgrave, Secretary of Justice, "The Regulatory environment", Roundtable with the Government of New Zealand, Wellington, New Zealand, 13-15 March 1995, page 47.

15 Commerce Commission "Telecommunications Industry Inquiry Report", Wellington, New Zealand, 23 June 1992, at page 83.

4.43 The Commission, in that same report, also concluded that:

The kind of information that might support successful action under the Commerce Act would have to be more detailed and more specific than that provided under the Regulations. In other words, the information disclosed under the Regulations is too broad and general to be used in leveraging entry by means of legal proceedings. It is doubtful whether, in theory, information for such use could be regulated for, since every case turns so much on its own particular facts, and the telecommunications industry is one of the most dynamic there is.<sup>16</sup>

- 4.44 It is apparent from recent developments that the current disclosure requirements have added little to the process. BellSouth notes, for example, that all of the Courts which considered the Clear and Telecom dispute acknowledged the difficulty of proving monopoly profits. Officials, in the Discussion Paper, could only say that the available information is "consistent with the view that Telecom is benefiting from the absence of competition."<sup>17</sup>

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16 Commerce Commission "Telecommunications Industry Inquiry Report", Wellington, New Zealand, 23 June 1992, at page 83.

17 Discussion Paper, Appendix G, paragraph 24, at page 109.

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## 5. OBJECTIVE OF POLICY

### Objectives for economic efficiency

5.1 As a result of the issues arising from the New Zealand experience with telecommunications interconnection negotiations, the Government is considering whether it should introduce supplemental measures affecting interconnection. It will only put in place alternatives if they will better deliver overall efficiency and user benefits.<sup>18</sup> Its objective for the telecommunications sector is to maximise the contribution of the sector to the overall growth of the economy through the promotion of economic efficiency.<sup>19</sup>

5.2 It seeks to do so by means of:

[The] establishment, implementation and monitoring of legislative frameworks for the fair and efficient conduct of business and the operation of markets, which rewards innovation, promotes efficiency and enhances investor confidence.<sup>20</sup>

5.3 The potential benefits from new policy measures must be evaluated against these goals of economic performance. There are three aspects of economic efficiency:

- productive efficiency
- allocative efficiency
- dynamic efficiency

5.4 Competition and innovation together offer tremendous potential for growth and increased economic welfare by enhancing each of these types of efficiency. Competition enhances productive efficiency by imposing cost discipline in the market. It increases the varieties of technologies employed in the industry, with ensuing opportunities for learning from the operations of other firms; performance comparisons allow owners to adjust operations to the most efficient and to eliminate inefficient firms.<sup>21</sup> Competition enhances allocative efficiency via price and quality competition, disciplining both prices and costs.

5.5 Most critically, competition and innovation enhance dynamic efficiency, by providing the opportunities for firms to introduce new services, and the motivation to use innovation as a means of competition. Price competition is a powerful force for productive and allocative efficiency, yet the major gains to economic performance over the long term come from the cumulative effects of dynamic efficiency. The aggregation of benefits from continued innovation, that improve services and reduce

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18 Ministry of Commerce and The Treasury (1995), "Regulation of Access to Vertically-Integrated Natural Monopolies", Discussion Paper, Wellington, New Zealand, 15 August 1995, p.3, para. 15; p.6, para. 29; p.9, para 51.

19 Ibid., p.1, para. 2; p.21, para. 81; from Strategic Result Areas for the Public Sector 1994-1997, Dec 1994, Section 2, 'Enterprise and Innovation'.

20 Ibid., p.1, para. 2.

21 Ibid. p.77, para. 9; Ergas (1995a), note 29.

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costs, soon surpass the one-time efficiency improvements from removing an allocative distortion.

- 5.6 These concerns regarding innovation and dynamic efficiency are especially important in the telecommunications sector in the present day. The telecommunications industry is marked by an explosive rate of innovation and change worldwide. This is led by the emergence of new and extremely valuable technologies - including radio-based technologies, fiber optics and digital electronics - which in turn are dramatically reducing costs, making new services available, and radically shifting the economics of the industry.<sup>22</sup> Telecommunications services and technologies are on offer today which were not considered possible just a few years ago. This is also resulting in the convergence of many formerly distinct industries, including telecommunications, computing, and entertainment.
- 5.7 These developments make it vital that processes for introducing change in the industry, in as efficient a manner as possible, are allowed to take effect. The pace of innovation in telecommunications is very rapid and there are potentially very large gains from dynamic and allocative efficiency.

#### **Influence of a dominant incumbent on innovation**

- 5.8 The impact of a dominant incumbent, which can distort the timing, direction and structure of the evolution of the industry, can have a significant adverse impact on welfare, and in particular consumer welfare. Technological innovation is endogenous and highly path dependent. Each step is shaped by the capabilities and infrastructure already in existence. Thus, the potential welfare gains from innovation are highly sensitive to the current market structure.
- 5.9 This is especially worrisome in New Zealand, because Telecom's history makes it less likely that it will focus adequately on the opportunities presented by the new innovations affecting the industry. The incumbent, with large investments in the existing network configured consistent with its former monopoly franchise, is likely to innovate in ways which protect its existing assets, service or product markets or perpetuate existing rents, rather than seek new services and markets. Its market position arises as the successor to the former government monopoly franchise, and it has little experience of an environment based on competition and market-oriented innovation. The dominant incumbent can dictate access terms, and this allows it to determine the pace and direction of innovation. This reduces opportunities for innovation by other firms, who would otherwise would have the freedom to chose areas with greatest market potential.
- 5.10 The endogeneity of such innovation implies that, where there is dominance, even apparent natural monopoly characteristics, such as positive returns to scale and economies of scope, may be a reflection of the dominant firm's technological path, and its search to reinforce the value of its existing position, rather than being efficiency enhancing. This is a major issue because, given its relative size, the

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22 Rosston and Teece (1993); Teece (1994).

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incumbent's investment decisions will dominate total investment in the telecommunications industry.

- 5.11 This is not to say that it should be an objective of policy to control monopoly power or eliminate monopoly rents per se. Some element of monopoly power is a necessary passing phase in the process of technological innovation, to act as the spur to future innovation:

What we have got to accept is that the [large-scale establishment or unit of control] has come to be the most powerful engine of [economic] progress and in particular of the long-run expansion of total output ... in this respect, perfect competition is not only impossible but inferior, and has no title to being set up as a model of ideal efficiency.

Indeed the perennial gale of creative destruction is continually sweeping away entrenched monopoly power that appeared so secure until a new innovation consigned it to the scrapheap of history. That is precisely why the perennial gale is such a critically important economic force.<sup>23</sup>

#### Need to promote entry and flexibility

- 5.12 What is needed to ensure the efficient combination of competition and innovation is entry. The mere threat of entry will not provide the mechanism of dynamic competition, which requires that firms continually compete via innovation and interact with each other in the market place. This is a process of seeking out innovations, and developing and introducing new services, to achieve competitive advantage. This dynamic requires entry itself, which will:

... provide discipline over prices, ensure that services are provided where demand exists, provide incentives to raise service quality and provide incentives to introduce new technologies.<sup>24</sup>

- 5.13 This calls for multilateral competition between a number of innovative and technologically alert firms. Competition between multiple sources of innovation provides the necessary variety of innovation from inside and outside the industry; the volume of resources to invest in new services; and the 'high powered' incentives to compete by innovation:

Where, for one reason or another, society has been denied the advantages of multiple independent approaches to advance technology, which flow naturally from a basis of independent rivalrous firms, almost always the approach chosen has turned out, after the fact, to have major limitations. And since alternatives had not been developed to a point where they could be tried in comparison, there has been lock in. A number of U.S. military R&D efforts since 1960 are striking examples. Nuclear power programs are another. The fact is that in virtually every field where we have had rapid technical advance that has met a market test or its equivalent, we have had multiple rivalrous sources of new technology.<sup>25</sup>

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23 Rosenberg (1994), page 53; the reference is to Schumpeter's 'perennial gale of creative destruction' (Schumpeter, 1943, p.81).

24 Galt (1995).

25 Richard R. Nelson, 'Why Do Firms Differ, and How Does it Matter?' *Strategic Management Journal*, vol 12, 61-74 (1991)



- 5.14 This combination of competition and innovation, achieved through market processes, has the best chance of allowing this progress to unfold. Policy should reflect this need for flexibility, rather than instituting more directive policy. This does not imply, however, that it should be an objective of policy to manage technological change:

Regulators should not pretend to be able to predict the future level of systemness or the viability of a specific technology in something as complex as the telephone network. Even when the path of technological adoption is clear, the effect of the policy maker is still often uncertain... In an industry as complex as telecommunications, regulators should not be overconfident in their ability to "manage" technological change.<sup>26</sup>

#### Incentives for innovation

- 5.15 The challenge for relying on market processes in the case of telecommunications is that property rights are weak and poorly defined.<sup>27</sup> The incumbent is able to control the terms of interconnection and hence to extract the rents from innovation, or to delay introduction until it has an equivalent service available. The innovator is unable to assert its rights over the new service. This reduces the incentives to innovate. Often the innovator must rely on being first to introduce a new service to be able to earn an adequate and temporary return. This is a reason why the timeliness of interconnection is so important. To allow dynamic competition to take place, policy needs to equalise the bargaining power between entrant and incumbent. This is the essence of policy measures that aim to level the bargaining power of the two parties to interconnection.
- 5.16 The innovator's inability to assert property rights to new services is exacerbated by the fact that the terms and conditions governing access include much more than price. Effective access includes pricing, timeliness, access to features and functionality, quality, and standards. These are all characteristics of access which determine the ability of the entrant to operate efficiently, and hence determine the performance of the sector. It is often difficult to identify the relationship between each of the terms and the viability of an interconnection proposal, and hence may be an effective way for the incumbent to obstruct the negotiating process.
- 5.17 There are also transaction costs difficulties of negotiating access, due to the imbalance of bargaining power and the complexity of the issues involved. These affect the introduction of new services which benefit both networks, but for which the costs and risks are born asymmetrically. For example, although the costs and risks may be borne mainly by the entrant, the incumbent also benefits from an expanded market for complementary services, yet because of superior bargaining power the incumbent may renegotiate access rates ex post if the service is successful. Guarding against such risks increases the transaction costs of negotiating and enforcing the contract, and reduces incentives to innovate.<sup>28</sup>

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26 Rosenberg (1994), p.228.

27 Discussion Paper, p.2, para. 11; p.34, para. 131.

28 Teece (1988).